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Appl. No. 09/825,045
Amdt. Dated June 24, 2005
Reply to Final Office Action of May 13, 2005

REMARKS

Claims 1, 3, 7, 8 through 18, and 20 remain pending in
this case. Claims 1, 8, and 15 have each been currently
5 amended. Claims 2, 4 through 6, 19, and 21 have been
canceled.

"Claims 1-20 are rejected under 35 U.S.C. 102(e) as being
anticipated by Kong et al. (US 6,782,106, hereinafter
10 "Kong")." The claims have been amended, as will be discussed
in greater detail below, to distinguish from the teachings of
Kong.

Claim 1, as amended, is claiming the following:

15

A selective noise canceling headset, comprising:

at least one earpiece for reproducing a selected audio
signal;

20

a microphone for monitoring an external audio signal
in a vicinity of said headset; and

a selective noise suppression circuit for analyzing
said external audio signal, including:

25

an audio classifier coupled to said microphone
for receiving said external audio signal, said audio
classifier being operative through use of audio
content analysis algorithms, to analyze the audio
content of said external audio signal to determine if
at a given time a segment is a desired external
signal, and if so to output a "use signal," but if not
30 to output a "suppress signal," said desired external
signal segment(s) including any one or combination of
an audio alarm signal, a dog barking, and speech
directed to a user of said earpiece; and

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5 a noise canceling circuit for receiving both
a selected audio signal and said external audio
signal, and being responsive to the presence of
said use signal to pass said external audio
signal along with said selected audio signal for
reproduction, and responsive to the presence of
said suppress signal to prevent passage of said
external signal, said noise canceling circuit
10 also being selectively operable for canceling
said selected audio signal during the presence of
said use signal.

Kong uses only volume or amplitude detection for
determining whether ambient sounds picked up by a microphone
15 20 are to be permitted to be mixed the sound generated by
sound producing device for reproduction by headphones. The
ambient sound will only be permitted to pass through if its
volume is greater than a predetermined level. Contrary to
this, as claimed in Claim 1 (currently amended), Applicants
20 use an audio classifier ". . . being operative through use of
audio content analysis algorithms, to analyze the audio
content of said external audio signal to determine if at a
given time a segment is a desired external signal . . . said
desired external signal segment(s) including any one or
25 combination of an audio alarm signal, a dog barking, and
speech directed to a user of said earpiece; . . ." Claim 1 is
also claiming in combination with the "audio classifier" use
of "a noise canceling circuit . . ." that is responsive to the
"audio classifier" for either passing or suppressing the
30 external audio signal, with the "noise canceling circuit" also
". . . being selectively operable for canceling said selected
said selected audio signal during the presence of said use
signal." Kong does not teach or suggest such use of an "audio
classifier" in combination with "a noise canceling circuit,"
35 as claimed in Claim 1 (currently amended), or the total

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combination of elements of this claim. Accordingly, Claim 1
(currently amended) is patentable over Kong.

Dependent Claims 3, and 7 are each dependent from Claim 1
(currently amended). Accordingly, these claims are patentable
for at least the same reasons as Claim 1 (currently amended).

Note that the audio classifier, and noise canceling
circuit, as claimed, are taught in the specification on page
5, lines 1 through 33, page 6 lines 1 through 22, and page 7,
lines 27 through 30. On page 6, on lines 19 through 22, a
paper by Silvia Pfeiffer et al., entitled "Automatic Audio
Content Analysis," Proc. ACM Multimedia 96, 21-30, Boston, MA
(Nov. 1996), has its teachings incorporated by reference
relative to the audio content analysis performed by the "audio
classifier". Also on page 7, it is indicated that the audio
classifier can alternatively be provided using the techniques
described in T. Zhang and C-C. Jay Kuo, "Heuristic Approach
for Generic Audio Data Segmentation and Annotation," Proc. ACM
Multimedia 99 (ACM Special Interest Groups), November 5, 1999,
the teachings of which are incorporated by reference for
showing operation of the audio classifier as an "audio
classifier/segmenter 510" (see page 7, lines 22 through 31).
Kong does not teach use of such "audio classifiers."

Claim 8, as currently amended, is claiming the following:

A selective noise canceling device, comprising:
a microphone for monitoring an external audio signal;
and
a selective noise suppression circuit for analyzing
said external audio signal, including:

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5 an audio classifier coupled to said
microphone for receiving said external audio
signal, said audio classifier being operative
through use of content-based audio segmentation
analysis techniques, to analyze said external
audio signal to determine if at a given time a
segment is a desired external signal, and if so
to output a "use signal," but if not to output a
"suppress signal"; and
10 a noise canceling circuit for receiving
said external audio signal, and being
responsive to the presence of said use signal
to pass said external audio signal, for
reproduction, and responsive to the presence of
15 said suppress signal to prevent passage of said
external signal for reproduction.

Kong does not anticipate or make obvious the combination
of elements of Claim 8, as currently amended. As previously
20 indicated, Kong does not teach the use of an audio classifier
in combination with a noise canceling circuit as now claimed
by Applicants. Accordingly, Claim 8, as currently amended, is
patentable over Kong.

25 Claims 10 through 14 are each dependent from Claim 8.
Accordingly, these dependent claims are patentable for at
least the same reasons as Claim 8 (currently amended).

Claim 15, as currently amended, is claiming the
30 following:

A selective noise canceling method, comprising:
monitoring an external audio signal;

analyzing said external audio signal through use of
content-based audio segmentation, to identify portions
35 thereof that may be of interest to a user;

amplifying the identified portions of said external
audio signal that are of interest;

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suppressing the portions of said external audio signal
not identified; and

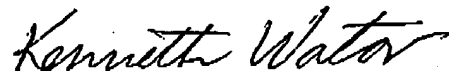
adding said amplified portions of said external
audio signal to a selected audio signal for reproduction
thereof.

As previously mentioned, Kong does not teach the use of
content-based audio segmentation as taught in the Pfeiffer et
al., and T. Zhang et al. papers incorporated by reference into
the specification and teachings of Applicants, as previously
mentioned. Accordingly, for this reason alone, Claim 15
(currently amended) is patentable over Kong.

Claims 16 through 18, and 20 are each dependent from
Claim 15 (currently amended). Accordingly, these claims are
patentable for at least the same reasons as Claim 15
(currently amended).

Applicants have shown that the claims as now presented
are patentable over the cited references. Accordingly, it is
respectfully requested that the claims be allowed and the case
passed on to issue.

Respectfully submitted,



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